

## VI. CONCLUSIONS

Stoughton Road has many deficiencies that contribute to the current congested condition of the roadway including the high number of crashes, and the large amount of traffic that is diverted onto local streets and IH 39/90/94.

Following is a summation of the needs identified by the study. The needs are categorized as immediate and future. Immediate needs are those for which current deficiencies exist and future needs are those that are expected to appear in the future.

Short-term solutions to address some of these needs have been identified. These are solutions that are fairly well-defined at this point, although funding has not yet been identified. The short term solutions will only provide immediate and minimal relief for some of the problems identified in the study. Further study is recommended to evaluate potential solutions for the major problem areas, and consider all environmental impacts in accordance with federal and state laws.

### A. NEEDS PRIORITIZATION

There are several areas of immediate need within the corridor. Solutions to these immediate needs may require large-scale improvements which requires extensive planning, design, and funding. Future needs may also require large-scale improvements; by planning for these emerging needs now, it may be possible to have plans and funding in place to make improvements when they are warranted.

#### A.1 IMMEDIATE NEEDS

The following areas are of immediate concern and are listed in order of priority:

East Washington Avenue – This intersection has the greatest impact on the overall function of the Stoughton Road corridor. Based on the number of vehicles it accommodates every day, the intersection impacts more people than any other section of the project. Numerous deficiencies exist based on the high volume of traffic. High crash rates, substandard pedestrian and bicycle accommodations, the low level of service, and insufficient turn lane lengths are all caused by the intersection being over loaded with vehicles. Signal coordination has been done from STH 30 to Kinsman Boulevard to improve traffic mobility through the corridor. However, due to the large number vehicles at the East Washington Avenue intersection, the coordination project did not include this intersection. This intersection is also the foremost concern of the neighborhoods and businesses of the study corridor.

Beltline Interchange Ramps – The high volume of traffic exiting the Beltline at the Stoughton Road interchange causes back-ups onto the Beltline caused by vehicles queuing to make left-turns onto Stoughton Road. Over 100,000 vehicles travel the Beltline daily between Stoughton Road and Monona Drive and the queues from the ramps impact travel on Madison's major east-west freeway.

Buckeye Road and Pflaum Road Intersections and Frontage Roads – High crash rates, substandard levels of service, close frontage road locations, inadequate turning movement accommodations, and poor bicycle and pedestrian facilities place these intersections near the top of the list of Immediate Needs. The conditions at Buckeye and Pflaum Road greatly impact the neighborhoods and businesses of the area. Current congestion at these intersections is a major contributor to diverted traffic through the neighborhoods. Congestion for turning

movements at the intersection is of concern to Madison Metro as the bus service hopes to add additional routes in this area in 2003 and anticipates that the buses will experience delays at these locations. Because of their close proximity to one another, solutions to these problem intersections should be considered together.

Enforcement for Speed-related Violations - As noted in Section V.A.3 Crash Rates, many of the crashes were due to speed-related offenses. This issue is not unique to Stoughton Road. Statewide, the number of crashes is on the increase, and, in most cases, the crashes were due to speed or other risky driving behaviors.

Diversion of Traffic to Neighborhoods – Due to congestion on Stoughton Road many local collector roadways are becoming diversion routes. These local collectors are becoming increasingly congested by vehicles traveling above the posted speed limit, creating hazardous conditions in many neighborhoods.

Noise Impacts to Residential Areas – Established residential areas west of Stoughton Road between Buckeye Road and Milwaukee Street are impacted by noise levels above current standards.

Bicycle and Pedestrian Access - Current crossing and parallel routes are not sufficient to provide for the needs of the existing bicycle and pedestrian demands.

Cottage Grove Road Interchange – Insufficient acceleration lane lengths at the entrance ramps and no deceleration lanes at exit ramps contribute to weaving and delays at this interchange.

Daentl Road Intersection – The Daentl Road intersection is located on the IH 39/90/94 exit ramp, a potentially dangerous location.

Orin Road Intersection – The intersection is located very close to Anderson Street.

Intersection Congestion – Left-turns at Pierstorff Street, Hoepker Road, and the IH 39/90/94 interchange ramps all are experiencing delays, causing levels of service below acceptable levels.

Inadequate Turning Lane Lengths – STH 30 Interchange Exit Ramps, Commercial Avenue, and Kinsman Boulevard have left turn lanes that provide inadequate queuing lengths.

Pavement Conditions - CTH CV to IH 39/90/94 will require maintenance in the near future and the worn concrete pavement at the Cottage Grove Road interchange becomes slippery in wet weather conditions.

Transit Needs – There is a need for park and ride facilities at the Madison Metro North and East Transfer stations. Madison Metro has identified the need for a place to stop on the Stoughton Road corridor in the vicinity of Anderson Street to better accommodate residents living in the area, and MATC students. An expansion of the Dutch Mill Park and Ride would provide greater capacity for this overcrowded facility.

## **A.2 FUTURE NEEDS**

These needs will become more evident as the area develops and traffic volumes on Stoughton Road continue to increase.

STH 30 Interchange Exit Ramps – Current conditions indicate that the number of vehicles turning north onto Stoughton Road from these ramps queues beyond the length of the existing lanes. These conditions will continue to worsen as greater volumes of traffic use this interchange.

Hoepker Road Intersection – This roadway is used extensively for those traveling from the American Family development to downtown Madison. Continued development in the American Family complex and in the Hanson Road neighborhood will increase traffic on this roadway and level of service is expected to deteriorate to “F” by 2030.

Hanson Road Intersection – As this industrial area begins to develop and traffic increases, the current rural intersection will need geometric improvements to accommodate these increases.

Anderson Street Intersection – The intersection is expected to deteriorate to a Level of Service F in 2030 conditions. Due to its close proximity to East Washington Avenue, the needs of this intersection should be considered as part of the study of possible improvements to East Washington Avenue.

Cottage Grove Road Interchange Structure Northbound (B-13-8) – The current sufficiency rating (75.1) makes this structure eligible for rehabilitation. This structure will continue to deteriorate. Rehabilitation and potential replacement of this 54 year old structure will need to be considered in the future.

Intersection Congestion – Broadway and CTH CV have movement that deteriorate to inadequate Levels of Service in 2030 conditions.

Railroad Crossing – The at-grade railroad crossing between the STH 30 interchange and Lexington Avenue/Commercial Avenue is a potential high speed and commuter rail line (see Exhibit 37). If the crossing remains at grade, traffic would be stopped on Stoughton Road up to 10 times an hour due to train crossings during peak periods, greatly impacting traffic mobility.

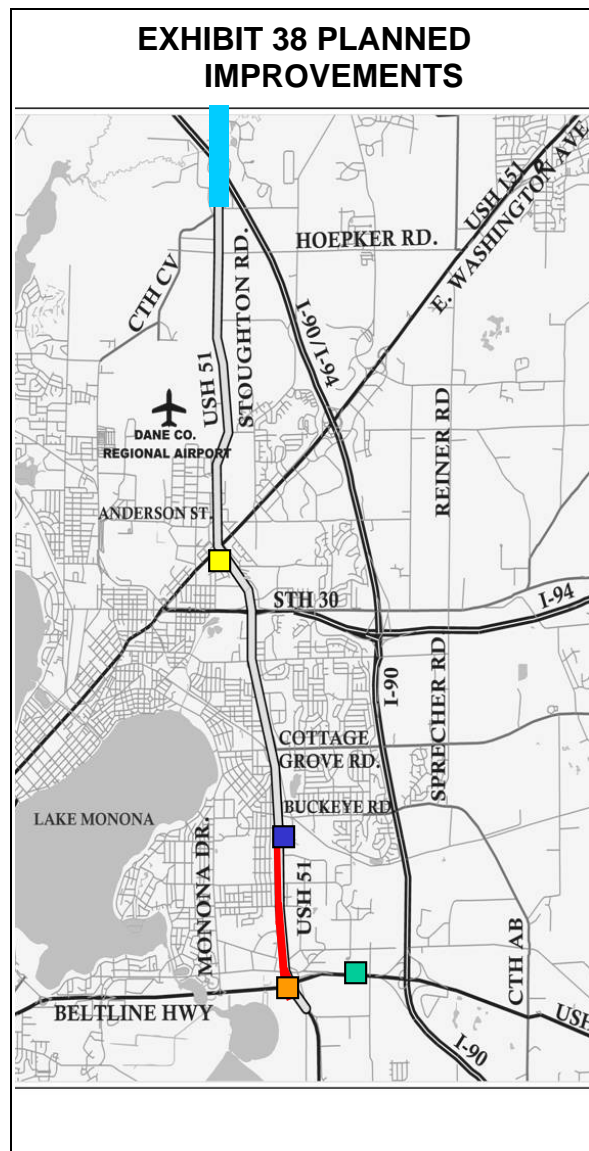
### **EXHIBIT 37 RAILROAD CROSSING BETWEEN LEXINGTON/COMMERCIAL AVENUE AND STH 30**



## B. PLANNED AND POTENTIAL IMPROVEMENTS

Some of the proposed improvements are short-term improvements are not expected to include major capacity expansions – they will likely enhance safety and improve traffic flow (see Exhibit 38). In addition there are improvement projects that are currently planned including:

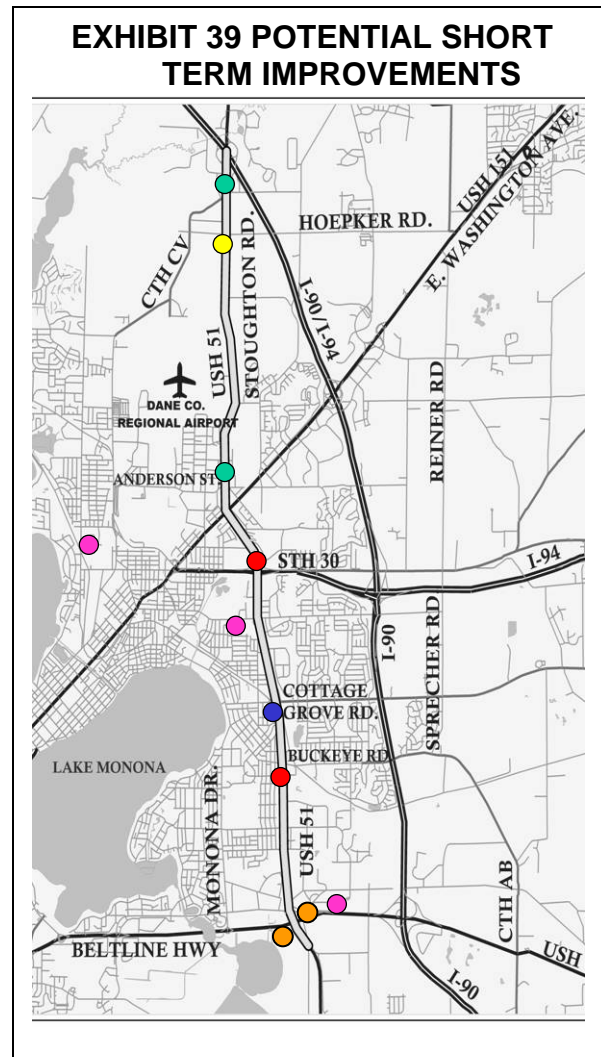
- Signal Coordination from Buckeye Road through the Beltline – WisDOT has a plan in place and will likely implement signal coordination by the Fall of 2003.
- Marsh Road Overpass – WisDOT and the City of Madison have completed plans for an overpass of the Beltline from Marsh Road connecting to Agriculture Drive. This will provide an alternative access to the developments between Stoughton Road and IH 39/90/94. It will also provide safe bicycle and pedestrian access across the Beltline from the south when construction is complete at the end of 2003.
- Buckeye Road and West Service Road Intersection Due to current traffic conditions and the Dean Clinic development near the Buckeye Road intersection, the City of Madison will add turn lanes and signals at this intersection. Additional bicycle and pedestrian facilities on Buckeye Road are included in this project that is planned for construction in 2003.
- East Washington Avenue Intersection – Some minor capacity improvements and enhanced bicycle and pedestrian facilities will result from this WisDOT and City of Madison project planned for construction in 2004.
- Beltline Interchange Bicycle and Pedestrian Accommodations – WisDOT has a project in the design phase to provide sidewalk and bicycle lane accommodations on Stoughton Road through the Beltline Interchange. Construction is anticipated in 2005.



- CTH CV – IH 39/90/94 – WisDOT has a project in the design phase to replace the pavement in this section, and further north to Reardon Road. Construction is anticipated in 2004.

Additional short-term improvements that could be considered on Stoughton Road include the items listed below (see Exhibit 39). They will need to be evaluated further for feasibility, cost, impacts, and funding availability.

- Beltline Interchange Ramps – Construction of an additional left turn lane on the eastbound exit ramp and extension of the right turn lane on the westbound exit ramp would enhance the capacity at the interchange and reduce vehicle queues. It may be practical to evaluate these changes in conjunction with the planned pedestrian/bicycle accommodation project.
- Cottage Grove Road Interchange Acceleration Ramps – Extending these entrance ramps will enhance traffic mobility and reduce weaving in these areas.
- Hoepker Road Intersection – The current left turn lanes on Stoughton Road at this intersection are at the minimum desirable length. Extension of these lanes will enhance through movements. Adding a right-turn only lane for traffic headed north on Stoughton Road will reduce queuing at the intersection. (Currently left turn, through, and right turn movements share one lane at the intersection.)
- Orin Road and Daentl Road Intersections – Removing these direct accesses to Stoughton Road will enhance through movements on Stoughton Road. These accesses are served by frontage roads and are in poor locations.



Improved Signing and Pavement Marking – Through the public participation process, numerous suggestions were received for improving pavement marking and signage. Advanced intersection signing and enhanced pavement markings designating lanes will provide better direction for drivers. Additional signing of bike routes and pavement marking of bicycle lanes will delineate existing bicycle accommodations in the study corridor. WisDOT should undertake a comprehensive pavement marking and sign study.

- Park and Ride Lot Expansions – Madison Metro plans to enhance its bus service to the east side of the City and wishes to add Park and Ride Lots at the North Transfer Point and East Transfer point. Expansion of the Dutch Mill Park and Ride should be considered. Additional Park and Ride facilities will potentially reduce the number of vehicle trips in the corridor.
- Improved Pedestrian and Bicycle Facilities – Connection of the sidewalk through the Buckeye Road intersection will make the area more attractive to pedestrians. The project at the Buckeye Road and West Service Road intersection will provide much of this short-term improvement. WisDOT and the City of Madison are also investigating the potential for a combined



bicycle/pedestrian path crossing Stoughton Road near the Lexington and Commercial Avenue intersection.

Increased Traffic Enforcement – As noted earlier, many of the crashes on Stoughton Road are due to speed-related violations that become all the more dangerous due to the congestion and geometric problems that exist on Stoughton Road. WisDOT and the City of Madison should consider ways to provide additional enforcement on Stoughton Road, and the intersecting streets where speeding is a problem.

Service Patrol – The Beltline currently has a patrol vehicle that provides assistance for stalled vehicles and crash incidents. An additional vehicle for Stoughton Road would provide early response to vehicles in crashes and contribute to timely clearing of the roadway.

Explore Solutions for Noise in Cottage Grove area – Suggestions made at the Public Information Meetings include: allowing brush to grow up on the hill near the ramps to provide some absorption of noise, fixing the expansion joint on the Cottage Grove Road structure (B-13-8) that is noisy when heavy trucks go over it, and putting up a sign to prohibit engine-braking on the ramps.

Modify/close Pierstorff Street intersection – Left turns from Pierstorff Street to Stoughton Road should be prohibited in the near future. Longer term, it may be best to close this intersection or only allow right in/right out movements.

Bus Stop Near Anderson Street – WisDOT will be working with the developer of the vacant lot at the Orin Road intersection to connect the frontage road from Anderson Street to Kinsman Boulevard. This would provide Madison Metro a good location for a bus stop near Anderson Street.

## **C. LONG-TERM IMPROVEMENT NEEDS**

Many of the deficiencies discussed in the Needs Prioritization section are not items that can be immediately addressed. Solutions to address these needs will require a complete evaluation of the impacts of various alternatives and greater expenditure of funds. After the impacts have been documented and a specific recommendation is made, funding sources for these improvements will need to be identified. Solutions to all the long-term issues outlined below should be explored in a comprehensive environmental corridor study. The ultimate goal is to improve the corridor for all modes of transportation, addressing the concerns and frustrations of all corridor users to provide a safe, efficient transportation facility.

### East Washington Avenue Intersection.

This is a very large intersection with poor geometrics. It is very congested, and a significant barrier to bicycle and pedestrian travel. An alternatives analysis should begin, and include consideration of the East Mendota and Anderson Street intersections. The alternatives analysis should include consideration of land use and redevelopment potential for the area. This should be a collaborative effort with the City of Madison.

### Buckeye and Pflaum Roads

These two intersections share similar problems and should be evaluated together because of their proximity to one another.

#### IH 39/90/94 Ramps and STH 30 Ramps

These experience serious back-ups now or are projected to in the future. Evaluation of options to address level of service problems should be done.

#### Hoepker and Hanson Roads

Both of these intersections will be at level of service F by 2030. Evaluation of alternatives should begin now so that development that occurs in the area will be carried out in the context of the future configuration of the intersections.

#### Bicycle Accommodations and Connections

Numerous disconnects and barriers exist for bicyclists attempting to use the Stoughton Road corridor. Some potential solutions have already been identified, including a connection in the rail corridor between Cottage Grove Road and Buckeye Road. WisDOT, the Madison Area MPO, and the City of Madison should continue efforts to make these connections. Additional solutions to the existing problems should be identified and all solutions should be compiled in the comprehensive corridor study report.

#### Lane Capacity on Stoughton Road

At this time, the congestion problems on Stoughton Road do not appear to be directly related to the amount of lane capacity – rather, they seem to be more related to problematic intersections. However, the evaluation of alternatives for intersection improvement should include the possible need for lane additions in the future, so that any major intersection improvements would not preclude the addition of lanes, if they were warranted at some time in the future. Noise abatement considerations would be evaluated in conjunction with capacity expansion.

#### Cottage Grove Road

Evaluation for the potential to add deceleration lanes and address structure problems should be done. The evaluation should include options for addressing the significant noise problem that exists in the area.

#### Railroad Crossing Needs

If proposed rail projects (commuter rail and high speed rail) proceed, this at-grade rail intersection may become problematic. Further evaluation of this situation may be needed.

#### Park and Ride Lots/Transit Oriented Development

A collaborative effort with Madison Metro, WisDOT and the City of Madison should consider the potential for adding park and ride lots at the Madison Metro transfer points, along with exploration of the potential for adding new employment sites and residential units in these areas to support transit services in the area.

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